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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,867	06/15/2001	Pierre Carol	109326	6258
25944	7590	12/17/2003	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			KALLIS, RUSSELL	
			ART UNIT	PAPER NUMBER
			1638	

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/807,867

Applicant(s)

CAROL ET AL.

Examiner

Russell Kallis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14,15 and 20-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14,15,21-24 and 26-29 is/are rejected.
- 7) ☒ Claim(s) 20 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 and 20 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claims 1, 3, 7, 9, 10, and 12-15 rejected under 35 U.S.C. 112, second paragraph, is withdrawn in view of Applicant's amendments.

Claim Rejections - 35 USC § 101

The rejection of Claims 1 and 3 under 35 U.S.C. 101 is withdrawn in view of Applicant's amendments.

Claim Rejections - 35 USC § 102

The rejection of Claims 1, 3 and 7 under 35 U.S.C. 102(b) is withdrawn in view of Applicant's arguments.

Claim Rejections - 35 USC § 103

The rejection of Claims 1, 3, 7, 9, 10 and 12-15 under 35 U.S.C. 103(a) is withdrawn in view of Applicant's amendments and arguments.

Claim Rejections - 35 USC § 112

Claims 21-24 and 26-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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The added claimed material which is not supported by the original disclosure is as follows: Newly added Claims 21-24 and 26-29 recite homology (sequence identity) to the coding sequence of SEQ ID NO: 1 (nucleotides 130 to 1182) while the specification only supports homology for the nucleotide sequence of SEQ ID NO: 1; 1396 nucleotides in length. Further, the specification only supports homology (sequence identity) to SEQ ID NO: 1 of 70% and 80% and not 90% or 95%. Thus, the claims are drawn to NEW MATTER.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claims 14 and 15 remain and newly added Claims 21-24 and 26-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 2/26/2003. Applicant's arguments filed 8/26/2003 have been considered but are not deemed persuasive.

Applicant asserts that the specification clearly describes vectors comprising only a portion of SEQ ID NO: 1 encoding a portion of SEQ ID NO: 2 (the TOCB enzyme) and nucleotide sequences that have 70%, 80%, 90%, or 95% sequence identity to SEQ ID NO: 1 (response page 5). Applicant also asserts that there is no literal support for portions of SEQ ID NO: 1 and nucleotide sequence that have 70%, 80%, 90%, or 95% sequence identity to the coding sequence of SEQ ID NO: 1 (response page 5).

Applicant has not described any nucleotide sequences that are portions of SEQ ID NO: 1 encoding portions of SEQ ID NO: 2; or sequences that have 70%, 80%, 90%, or 95% sequence identity to the coding region of SEQ ID NO: 1 or any essential sequences thereof required for

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activity within the scope of the claims that would indicate to one of skill in the art that they were in possession of a sequence encoding an enzyme involved in carotenoid synthesis.

Claims 14 and 15 remain and newly added Claims 21-24 and 26-29 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 2/26/2003. Applicant's arguments filed 8/26/2003 have been considered but are not deemed persuasive.

Applicant asserts that the specification clearly describes that nucleotide sequence having 70%, 80%, 90%, or 95% sequence identity are taught in the specification (response page 5), that it is well within the skill of the art to make changes to the nucleic acid of SEQ ID NO: 1 that may change the protein of encoded thereby without changing the enzymatic properties (response page 6).

Applicant has not taught which portions of SEQ ID NO: 1 encoding portions of SEQ ID NO: 2 or which nucleotide sequences of SEQ ID NO: 1 when changed would alter or eliminate enzymatic activity and thus could be predictably eliminated from modification. The number of possible changes within a nucleotide sequence having 70%, 80%, 90%, or 95% sequence identity to SEQ ID NO: 1 would encompass a myriad of possible embodiments requiring trial and error experimentation to test for activity in nucleotide sequences having 70%, 80%, 90%, or 95% sequence identity to SEQ ID NO: 1 or in portions of SEQ ID NO: 1 and still retain TOCB activity to modify carotenoid biosynthesis in a plant, thereby creating an undue burden upon one skilled in the art. Therefore, the invention is not enabled.

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Claims 20 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No Claim is Allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claims 14-15 and 20-29 are deemed free of the prior art, given the failure of the prior art to teach or reasonably suggest an isolated polynucleotide of SEQ ID NO: 1 and plants transformed with said polynucleotide.

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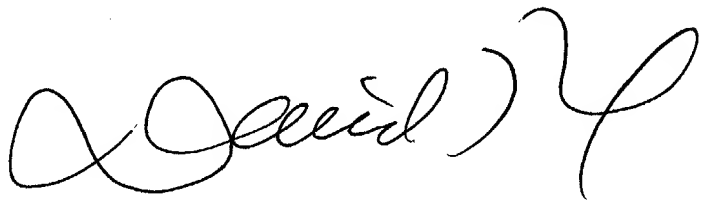
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (703) 305-5417. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0198.

Russell Kallis Ph.D.
December 8, 2003

DAVID T. FOX
PRIMARY EXAMINER
GROUP 180 1638

A handwritten signature in black ink, appearing to read "David T. Fox", with a stylized flourish at the end.